



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No: 10/702,163 Docket No: 1291051
Filing Date: 11/04/2003 Applicant: Guo-Shing Huang
Examiner: LESLIE, MICHAEL Art Unit: 3745
Title: BALANCING VERTICAL LOAD DEVICE FOR A MOTOR

To: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION TRANSMITTAL

1. Transmitted herewith is a response to an office action for this application.

STATUS

2. Applicant is entitled to Small Entity Status.
3. The proceedings herein are for a patent application and the provisions of 37 CFR 1.136 apply. Applicant believes that no extension of time is required. However, a conditional petition is hereby made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

4. FEE FOR CLAIMS: The fee for claims has been calculated as follows:

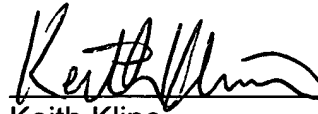
| Claims Remaining After Amendment | Highest No. Previously Paid For | Present Extra |
|-------------------------------------|------------------------------------|------------------|
| Total 4 | - 20 | = 0 |
| Ind. 1 | - 3 | = 0 |

5. FEE PAYMENT: No fee is required at this time. Authorization is hereby given to charge any required fees to deposit account number 16-2497.

6. Certificate of Mailing (37 CFR 1.8a): I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Respectfully submitted,

Date: April 19, 2005

A handwritten signature in black ink, appearing to read "Keith Kline", written over a horizontal line.

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RESPONSE TO OFFICE ACTION

Dear Sir:

The following is in response to the Office Action dated 02/08/2005:

AMENDMENTS TO THE CLAIMS

1 1. (Currently amended) A balancing vertical load device for a motor, to be used in
2 ~~conjunction~~ combination with a vertical driving device with controlled force and positioning,
3 comprising:

4 a motor assembly, ~~further~~ comprising a motor, and a load weight which, driven by
5 said motor, performs a vertical movement; and

6 a sealed air pressure system, ~~further~~ comprising an air cylinder, a ~~piston~~, piston
7 gliding inside said air cylinder with low friction and being connected with said load weight,
8 an air container, ~~storing a relatively large~~ with an air volume such that with a piston velocity
9 of 2 m/s, a pressure differential created by movement of said piston during operation of
10 said device is less than 3 percent, and an air pressure source;

11 wherein said sealed air pressure system balances a load of said load weight, so that
12 precise control of force and position of a vertically moving object, as if moving horizontally,